

ACCESSION NR: AR4039240

8/0269/64/000/004/0032/0032

SOURCE: Ref. zh. Astronomiya, Abs. 4.51.239

AUTHOR: Pronik, V. I.

TITLE: The mechanism of excitation of luminescence of filaments in the Crab nebula

CITED SOURCE: Izv. Kry'msk. astrofiz. observ., v. 30, 1963, 104-112

TOPIC TAGS: Crab nebula, nebula, astrophysics, synchrotron radiation, interstellar gas, interstellar medium

TRANSLATION: This article discusses the reasons for luminescence of filaments in Crab nebula. The following possible sources of excitation of the luminescence are considered: a) radiation of a central star, b) synchrotron radiation of the amorphous mass of the nebula, c) shock excitation as a result of collision with the interstellar gas (due to the kinetic energy of nebular expansion), and d) excitation by

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high-energy particles belonging to the nebula itself (ionization losses). It is shown that the excitation of the luminescence of filaments in the Crab nebula cannot be caused by the radiation of a central star or by synchrotron radiation of the nebula. The field of L_c radiation, independently of the nature of the source of this radiation, apparently cannot cause luminescence of filaments. Excitation by fast particles belonging to the amorphous mass is important only in a case when the lower limit of the energy spectrum of relativistic electrons is $E_l \approx 10^{-5} - 10^{-6}$ erg. Excitation by mechanism "c" can play a significant role only for filaments situated on the boundary of the nebula and the interstellar medium. Bibliography of 11 items.
A. Kurchakov.

DATE ACQ: 12May64

SUB CODE: AS

ENCL: 00

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23698

S/O35/61/000/004/028/058
A001/A101

3,1510

AUTHORS: Gershberg, R.Ye., Pronik, V.I., Shcheglov, P.V.

TITLE: Photographing diffuse nebulae in infrared rays

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 4, 1961, 30, abstract 4A321 ("Izv. Krymsk. astrofiz. observ.", 1960, v. 22, 150-151, Engl. summary)

TEXT: The authors report on the results of photographing bright gaseous nebulae NGC 6611, 6618 and 6523 in infrared region by means of an electronic-optical converter mounted on a high-speed camera with $D=640$ mm, $D/F=1:1.4$. It was supposed to detect emission in region $\lambda \lambda 9060-9540$. The region was singled out by a filter absorbing light with $\lambda < 8000$ and by the long wavelength sensitivity border of the equipment. A 3C-7 (ZS-7) additional filter permitted the solution of the problem about the nature of emission, i.e. emission [S III] or continuum, because by narrowing the pass band by 2.5 times the filter did not practically change transmission of emission at $\lambda 9540$. No emission from the nebula NGC 6611 was

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Photographing diffuse nebulae in infrared rays

detected, and in the nebula NGC 6523 only the brightest part of the nucleus was noticed. Apparently the pass band used for taking the photographs was too wide. The nebula NGC 6618 is well visible in infrared rays. There are 8 references.

V. Yesipov

[Abstracter's note: Complete translation]

Card 2/2

GERSHBERG, R.Ye.; PRONIK, V.I.; KORKIN, S.I.

Oscillographic attachment to the MF-4 microphotometer for recording intensities. Izv.Krym.astrofiz.obser. 22:166-175 '60.
(MIRA 13:7)

(Microphotometer--Attachments) (Oscillograph)

88820

S/035/61/000/002/005/016
A001/A001

3,1570 (1062,1129,1172)

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1961, No. 2,
p. 21, # 2A223

AUTHOR: Pronik, V.I.

TITLE: Electronic Temperature, Density and Mass of Nebula NGC 6523

PERIODICAL: "Izv. Krymsk. astrofiz. observ.", 1960, Vol. 23, pp. 3-20 (Engl.
summary)

TEXT: Absolute luminosities of this nebula were determined in continuous spectrum about λ 6000 and in emission lines λ 3727 (OII), $H\beta$, N_1+N_2 (OIII), $H_{\alpha}+$ (NII) from the photographs taken in these rays. The nebula luminosities in various rays are compared with relative intensities of spectral lines determined by other authors spectrophotometrically. Electronic temperature in various spots of the nebula was determined by the method proposed by the author (RZhAstr, 1958, No. 5, 3115). The mean value of electronic temperature $T_e \approx 8,200^\circ\text{C}$. There is a slight variation of temperature with distance from the nebula central part; in the latter $T_e \approx 8,500 - 8,700^\circ\text{C}$ and at its periphery $T_e \approx 7,500^\circ\text{C}$. This difference is apparently real. It may be caused by different intensities of lines of (SIII) cooling

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S/035/61/000/002/005/016

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Electronic Temperature, Density and Mass of Nebula NGC 6523

the nebula. The main star which excites the nebula is 9 Sgr = HD 164794 (05) located in the center of the emission zone (OIII) and partially (south-eastern part of the nebula) star HD 165052 (07) which is apparently closer to us, outside the nebula. Observations of the intensity of the nebula continuous emission in the band λ 6000 yield the value $I_{\text{const}}/I_{\text{H}\beta} = 5.5 \times 10^{-3}$, which is twice as high as that expected by the theory of Seaton (RZhAstr, 1957, No. 6, 4698). The linear relation between the continuous emission intensity and intensity of line $\text{H}\beta$ points out that $I_{\text{const}} \propto n^2$ and is due to atomic emission mechanisms rather than to scattering by the dust. The density of the nebula in its various spots was found from absolute intensities in $\text{H}\beta$ -line. Its mean value throughout the whole nebula $n_e \approx 30$. The nebula mass with allowance for He $\sim 2,500 \odot$. The nebular density, found from the value of the radius of the Stromgren ionization zone, agrees well with the density value determined from the absolute intensity in the $\text{H}\beta$ -line. The visible boundary of the nebula represents the edge of zone HII formed by the 9 Sgr star. The structure of the NGC 6523 nebula favors the hypothesis of formation of nebulae by ionization of cold masses of interstellar gas. There are 22 references.

Author's summary

Translator's note: This is the full translation of the original Russian abstract.

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81837

S/033/60/037/03/005/027
E032/E314

3.1730

AUTHOR: Pronik, V.I.

TITLE: On the Maximum in the ¹²Galactic Thermal Radio Emission
at $\ell = 353^\circ$, $b = 0^\circ$

PERIODICAL: Astronomicheskii zhurnal, 1960, Vol 37, NO 3,
pp 436 - 438 (USSR)

ABSTRACT: Westerhout (Ref 1) has observed a maximum in the 21.6 cm emission near $\ell = 353^\circ$. Comparison with 3.5 m observations shows that the observed maximum has a thermal nature. Westerhout identified this maximum with the region of ionized hydrogen in the immediate neighbourhood of the "expanding arm" at 3 kps from the centre of the Galaxy. However, this explanation meets with a number of difficulties. The region $\ell = 363^\circ$, $R = 3.5$ kps is very poor in neutral hydrogen and if it is assumed that all the hydrogen is ionized, then it is difficult to see what is the origin of this ionization. It is argued in the present paper that the maximum observed in the direction $\ell = 353^\circ$ is due to HII zones associated with a region which is very rich in neutral hydrogen and which is seen on 21 cm at 12 to 14 kps from the Sun in the same direction. The mass of ionized hydrogen necessary to ensure the observed

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S/033/60/037/03/005/027

On the Maximum in the Galactic Thermal Radio Emission at
 $l = 353^{\circ}$, $b = 0^{\circ}$

flux density of thermal radio emission would comprise only about 3% of the mass of neutral hydrogen localized in this region of the Galaxy. Acknowledgment is made to R.Ye. Gershberg for his valuable advice. There are 1 figure and 5 references, 1 of which is Dutch and 4 English.

ASSOCIATION: Krymskaya astrofizicheskaya observatoriya Akademiya nauk SSSR (Crimean Astrophysical Observatory)

SUBMITTED: January 9, 1960

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4

3,1440

87249
S/033/60/037/006/008/022
E032/E514

AUTHOR: Pronik, V.I.

TITLE: Diffuse Nebulae and Early Type Star Models

PERIODICAL: Astronomicheskii zhurnal, 1960, Vol. 37, No. 6,
pp. 1001-1004

TEXT: The radius of a nebula (radius of a Strömberg zone)
depends on the number of ionizing quanta according to the following
expression

$$r_o = \frac{U(S_p)}{n^{2/3}} \quad (1)$$

where

$$U(S_p) = 1.25 \times 10^{-7} \left(\frac{R_*}{R_o} \right)^{2/3} N^{1/3} \quad (2)$$

In the above formula n is the density of the nebula, R_*/R_o is
the stellar radius, expressed in units of the solar radius, and

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$N = \int_{912 \text{ \AA}}^{\infty} N_{\lambda} d\lambda$ is the total number of ionizing quanta emitted by the

star per second per unit area. Gershberg and the present author (Ref.1) have compared theoretical values of the parameter $U(S_p)$, calculated from Eq.(2) for different spectral classes, with the observed values (Eq.1). It was found in Ref.1 that good agreement could be obtained between the observed values of U and those calculated theoretically. This suggests that the number of N obtained from stellar models is very close to the actual value. The energy balance equation for free electrons in the nebula relates the electron temperature of the nebula T_e , the total intensity of all the forbidden lines emitted by the nebula (usually expressed in units of the intensity of the H_{β} line, i.e. $\sum_i \frac{[I_i]}{I_{H_{\beta}}}$) and the mean

energy of the ionizing quanta $h\nu$. The latter quantity depends on

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Diffuse Nebulae and Early Type Star Models

the energy distribution in the spectrum of the exciting star beyond the Lyman limit. The present author has given a complete version of the energy balance equation in Ref.4. This equation is most conveniently represented in the form of the nomogram given at the end of the present abstract. The two outer circles give the values of T_e and $\sum_i \frac{[I_i]}{I_{H\beta}}$, while the middle scale gives the values of $\bar{\epsilon}$,

i.e. the mean energy received by an electron during the photo-ionization of hydrogen (in ergs). The points of intersection of these scales by any straight line give the value of T_e , $\bar{\epsilon}$ and

$\sum_i \frac{[I_i]}{I_{H\beta}}$, which simultaneously satisfy the energy balance equation.

Using the observed values of T_e and $\sum_i \frac{[I_i]}{I_{H\beta}}$ for a number of specific diffuse nebulae, the author estimates $\bar{\epsilon}$ using this Card 3/6

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nomogram and compares these values with the values of $\bar{\epsilon}$ calculated from stellar models. Observational data reported by Aller (Ref.5), Wade (Ref.6), Gershberg and the present author (Ref.7) and the present author (Ref.8) for T_e and $\sum_i \frac{[I_i]}{I_{H\beta}}$ interpreted in terms

of the above mentioned nomogram suggest that possible values of $\bar{\epsilon}$ for diffuse nebulae lie in the range $(3.5-4.5) \times 10^{-12}$ erg. The following table gives the value of $\bar{\epsilon}$ calculated by the present author from the various stellar models as indicated.

Author of Model	S_p	$\bar{\epsilon} \times 10^{12} \text{ erg}$	Remarks
Underhill (Ref.9)	05 V	4.8	
	09; 5 V	4.2	
Pecker (Ref.10)	B1, 5 V	3.6	
	B1 V	3.6	
Saito (Ref.2)	O 7.5	4.7	Spectral class estimated from T_{eff}
Card 4/6	B0.5	3.4	ditto. Cont.

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Author of Model	Table 2 cont.		Remarks
	S_p	$\bar{\epsilon} \times 10^{12} \text{ erg}$	
Traving (Ref.3)	09	4.2	τ Scorpii
	B0	4.2	10 Lac
Observations of	06.7	4.35	Orion nebula
diffuse nebulae	09-05	3.5-4.5	NGC 2237, 6523, 7000

As can be seen from this table, $\bar{\epsilon}$ is not strongly dependent on the spectral class. In calculating $\bar{\epsilon}$ for a nebula it was assumed that the nebula is optically thin in the Lyman continuum. Values of $\bar{\epsilon}$ obtained from stellar models are found to lie within the range $(3.5-4.5) \times 10^{-12} \text{ erg}$, which was deduced from experimental data on the basis of the above mentioned nomogram. There are 1 figure, 2 tables and 10 references: 4 Soviet and 6 non-Soviet.

ASSOCIATION: Krymskaya astrofizicheskaya observatoriya Akademii
Card 5/6 nauk SSSR (Crimean Astrophysical Observatory, AS USSR)

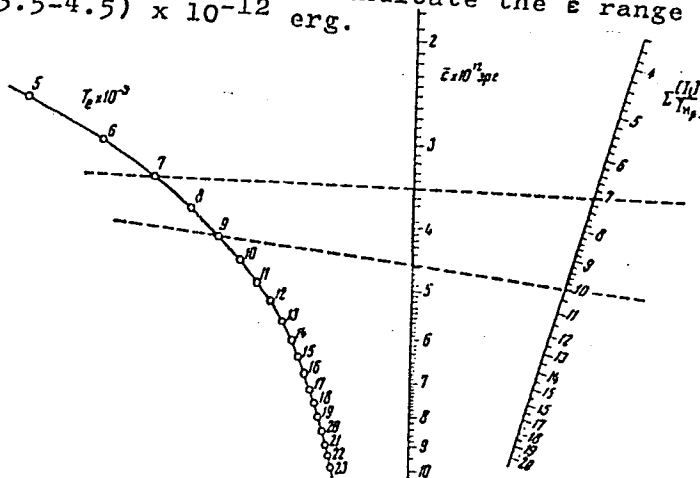
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Diffuse Nebulae and Early Type Star Models
SUBMITTED: May 8, 1960

NOMOGRAM:

The two dotted lines indicate the $\bar{\epsilon}$ range of
(3.5-4.5) $\times 10^{-12}$ erg.



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GERSHBERG, R.Ye.; PRONIK, V.I.

Reality of the peculiar nebula near γ Geminorum. Astron. zhur. 37
no.6:1122-1125 M-D '60. (MIRA 13:12)

1. Krymskaya astrofizicheskaya observatoriya Akademii nauk SSSR.
(Nebulae)

BOYARCHUK, A.A.; GERSHBERG, R.Ye.; PRONIK, V.I.

Formulae, graphs, and nomograms for a quantitative analysis
of the spectra of emission objects. Izv. Krym. astrofiz. obser.
29:291-314 '63. (MIRA 16:10)

PRONIK, V.I.

Excitation mechanism of filamentary emission in the Crab nebula.
Izv. Krym. astrofiz. obsr. 30:104-112 '63. (MIRA 17:1)

L 8620-65 EWT(1)/EWG(v)/EEC(t) Pe-5/Pae-2 AFETR/SSD/AFWL/ESD(t) GW

ACCESSION NR: AR4038678

S/0269/64/000/003/0018/0036

SOURCE: Ref. zh. Astron. Otd. vyzp., Abs. 3.61.307

AUTHOR: Metik, L. P.; Prok, V. I.

TITLE: Determination of distances to planetary nebulae on the basis of interstellar absorption

CITED SOURCE: Izv. Krymsk. astrofiz. observ., v. 30, 1963, 113-117

TOPIC TAGS: planetary nebula, interstellar absorption, astronomy

TRANSLATION: A method is proposed for determination of the distances to planetary nebulae as a function of interstellar absorption on distance in the neighborhood of

DATE ACQ: 17Apr64

SUB CODE: AA

EROL: 00

Card 1/1

PRONIK, I. I.; PRONIK, V. I.

Distribution of early stars in the Galaxy. Astron. zhur. 40
no.1:94-99 J-F '63. (MIRA 16:1)

(Stars—Distribution)

L 57612-65 EWT(1)/EWG(v)/EEC(t) Pe-5/Pae-2 GW

ACCESSION NR: AR5014704

UR/0269/65/000/006/0032/0032

523.852.22

20

B

AUTHOR: Pronik, V.I.

TITLE: Temperature of nuclei of planetary nebulae and energy distribution in their spectra beyond the Lyman limit

SOURCE: Ref. zh. Astronomiya. Otdel'nyy vypusk, Abs. 6.51.324

CITED SOURCE: Izv. Krymsk. astrofiz. observ., v. 32, 1964, 155-164

TOPIC TAGS: planetary nebula, planetary nebula nucleus, Lyman limit, planetary nebula spectrum

ABSTRACT: An evaluation is made of the optical thickness τ_{HI} of planetary nebulae beyond the Lyman limit in a hypothesis of an exponential dependence of the star's

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L 57612-65

ACCESSION NR: AR5014704

between the intensity of the radiation flux and the rate of its decrease with frequency in the area $912\text{\AA} > \lambda > 100\text{\AA}$ indicates a possible deviation from the Planck distribution of energy in this region of the spectra of hot stars.

PRONIK, V.I.

Electron temperature of gaseous nebulae and methods of its
determination. Vop.kosm. 8:191-215 '62. (MIRA 15:7)
(Nebulae)

PRONIK, V.I.

Corpuscular emission of the nucleus and the electron temperature
of the planetary nebula IC 418. Izv.Krym.astrofiz.obser. 25:61-70
'61. (MIRA 14:10)

(Nebulae)

PRONIK, V.I.

Determining the temperature of nuclei of planetary nebulae and
of exciting OB stars. Izv.Krym.astrofiz.obser. 25:71-75 '61.
(MIRA 14:10)

(Nebule) (Stars--Temperature)

S/035/62/000/007/025/083
A001/A101

AUTHORS: Gershberg, R. Ye.; Pronik, V. I.

TITLE: Absolute photometry of the emission nebula NGC 6618

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 7, 1962, 31,
abstract 7A241 ("Izv. Krymsk. astrofiz. observ.", 1961, v. 26,
303 - 312; English summary)

TEXT: Information is given on observations of the nebula NGC 6618 in five
different spectrum bands, by means of a high-speed camera (F/1.4, D = 640 mm) of
the Crimean Astrophysical Observatory. Contours of corresponding pass bands are
presented, as well as reproductions of nebula photographs and charts of bright-
ness surfaces in absolute units for five different spectrum bands.

R. N. ✓

[Abstracter's note: Complete translation]

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S/035/62/000/007/023/083
A001/A101

AUTHOR: Pronik, V. I.

TITLE: Electron temperature and its changes in the planetary nebula
IC 4997

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 7, 1962, 35,
abstract 7A265 ("Izv. Krymsk. astrofiz. observ.", 1961, v. 26,
342 - 350; English summary)

TEXT: It is shown that observed changes in intensity of lines [N III],
[O III], [O II] in the spectrum of the nebula IC 4997 can apparently be ex-
plained only by changes in electron temperature T_e of the nebula. It has been
found that $T_e = 22,000^\circ\text{C}$ in 1938 and $T_e = 17,000^\circ\text{C}$ in 1959. The author holds
that this T_e change was due to variations of the corpuscular radiation of the
core.

V. I.

[Abstracter's note: Complete translation]

Card 1/1

PRONIKOV, A.S.

Machine Tools

LVTU automatic machines. Vest.mash. 31, no. 11, 1951.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, SEPTEMBER 1952. UNCLASSIFIED.

1. PRONIKOV, A.S.
2. USSR (600)
4. Machine Tools - Maintenance and Repairs
7. Determination of optimal structure for repair cycle of equipment. Vest mash No. 1 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

PRONIKOV, A. S.

Novye metody kinematicheskogo proektirovaniia kulachkovykh mekhanizmov.
(Vestn. Mash., 1949, no. 5, p. 10-17)

New methods of kinematic designing of cam gears.

DLC: TM4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

PRONIKOV, A.S.; DAL'SKIY, A.M.

Collet chuck efficiency. Stan. 1 instr. 26 no:12-15 Ja '55.
(Chucks) (MIRA 8:6)

PRONIKOV, A.S.

Theoretical and experimental investigation of wear of machine-tool
guiding surfaces. Tren. i izn. mash. no.10:91-134 '55.
(Mechanical wear) (Bearings (Machinery)) (MLRA 8:11)

Pronikov, A.S.

USSR/ Engineering - Chucks

Card 1/1 Pub. 103 - 4/25

Authors : Pronikov, A. S.. and Dal'skiy, A. M.

Title : Working efficiency of collet chucks

Periodical : Stan. 1 instr. 1, 12-15, Jan 1955

Abstract : Results are given on the efficiency of collet chucks used on automatic lathes and metal cutting machines, of the type 1261, and 1261-M. Drawings, diagrams.

Institution :

Submitted :

PRONIKOV, A. S.

"An Investigation and Calculation of the Life of Machine Tools." Moscow Order of
Labor Red Banner Higher Technical School imeni Bauman, 27 Dec 54. (VM, 16 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational
Institutions (12)

SO: SUM No. 556, 24 Jun 55

PRONIKOV, Aleksandr Sergeyevich.

Academic degree of Doctor of Technical Sciences, based on his defense 27 December 1954, in the Council of Moscow Order of Labor Red Banner Higher Technical School imeni Bauman, of his dissertation entitled: "Study and Computation of the Longevity of Instruments."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 15, 25 June 55, Byulleten' MVO SSSR, No. 15, Aug 56, Moscow, pp. 5-24, Uncl. JPRS/NY-537

PRONIKOV, A.S., doktor tekhnicheskikh nauk.

Methods for calculating the durability of machine tools. [Trudy]
MVTU no.38:31-73 '55. (MLBA 9:8)
(Machine tools)

PRONIKOV, A. S.

"Operational and Theoretical Research on the Wearing Qualities of Controlled Metal Cutting Machines," page 91 of the book "Friction and Wear of Metals," Book X, 1955

TABCON translation D-356324, 15 Nov 55

PRONIKOV, A.S., doktor tekhnicheskikh nauk.

Methods for designing durable machinery. Vest. mash. 36 no.6:
3-12 Ja '56. (MLRA 9:10)

(Machinery--Design)

KAPUSTIN, Ivan Il'ich, doktor tekhnicheskikh nauk, professor; NEBOL'SIN, A.M.,
inzhener, retsenzent; ~~PRONIKOV, A.S.~~, professor, doktor tekhnicheskikh
nauk, nauchnyy redaktor; MINAYEVA, T.M., redaktor; MEDVEDEVA, L.A.,
tekhnicheskikh redaktor

[Calculations designs for shoe machinery] Raschet i konstruirovaniye
obuvnykh mashin. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva
legkoi promyshl. SSSR, 1956. 506 p. (MLRA 9:10)
(Shoe machinery)

PRONIKOV, A.S.

Classification and calculation of interconnected machine parts wear.
Tren. i izn.mash. no.11:121-181 '56. (MLRA 9:9)
(Machinery--Design) (Mechanical wear)

N/5
741
.P96

PRONIKOV, A

S

Iznos i Dolgovechnost' Stankov (Durability and Deterioration of Machinery)
Moskva, Mashgiz, 1957. 274 p. Illus., Diagr., Graphs, Tables. Includes
Bibliographies.

PRONIKOV, A.S.

BOLDIN, Lev Andreyevich, kandidat tekhnicheskikh nauk; PRONIKOV, A.S.,
doktor tekhnicheskikh nauk, retsenznet; KUZNETSOV, M.M.,
kandidat tekhnicheskikh nauk, dotsent, retsenznet; SAVVIN, N.V.,
kandidat tekhnicheskikh nauk, dotsent, redaktor; RZHAVINSKIY, V.V.,
redaktor izdatel'stva; MODEL', B.I., tekhnicheskiy redaktor

[Machine tools; problems in operation] Metalloreshushchie stanki;
voprosy ekspluatatsii. Moskva, Gos.mashino-tekhn.izd-vo mashino-
stroit.lit-ry, 1957. 259 p. (MLRA 10:7)
(Machine tools)

PRONIKOV, A.S., doktor tekhnicheskikh nauk, professor; ACHERKAN, N.S.,
doktor tekhnicheskikh nauk, professor, retsenzent; SHAUMYAN,
G.A., doktor tekhnicheskikh nauk, professor, redaktor; MATVEYEVA,
Ye. N., tekhnicheskii redaktor

[Wear and durability of machine tools] Iznos i dolgovechnost'
stankov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-ry, 1957. 274 p. (MLRA 10:5)
(Machine tools)

PRONIKOV A S

PHASE I BOOK EXPLOITATION SOV/5053

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Iznos i iznosostoykost'. Antifraktsionnyye materialy (Wear and Wear Resistance. Antifriction Materials) Moscow, Izd-vo AN SSSR, 1960. 273 p. Errata slip inserted. 3,500 copies printed. (Series: Ita: Trudy, v. 1)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Ed.: M. M. Krushchov, Professor; Eds. of Publishing House: M. Ya. Klebanov, and S. L. Orpik; Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences, USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas: 1) Hydrodynamic Theory of Lubrication and Friction Bearings (Chairman: Ye. M. Gut'yar, Doctor of Technical Sciences, and A. K. D'yachkov, Doctor of Technical Sciences); 2) Lubrication and Lubricant Materials (Chairman: G. V. Vinogradov, Doctor of Chemical Sciences); 3) Dry and Boundary Friction (Chairman: B. V. Deryagin, Corresponding Member of the Academy of Sciences USSR, and I. V. Krasel'skiy, Doctor of Technical Sciences); 4) Wear and Wear Resistance (Chairman: M. M. Krushchov, Doctor of Technical Sciences); and 5) Friction and Antifriction Materials (Chairman: I. V. Krasel'skiy, Doctor of Technical Sciences). Chairman of the general assembly (on the first and last day of the conference) was Academician A. A. Blaguravov. L. Yu. Fruzanskiy, Candidate of Technical Sciences, was scientific secretary. The transactions of the conference were published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of antifriction materials. Among the topics covered are: modern developments in the theory and experimental science of wear resistance of materials, specific data on the wear resistance of various combinations of materials, methods for increasing the wear resistance of certain materials, the effects of friction and wear on the structure of materials, the mechanism of the seizing of metals, the effect of various types of lubricating materials on seizing, abrasive wear, wide variety of materials and components under many different conditions, modern developments in antifriction materials, and the effects of finish machining on wear resistance. Many particularities are mentioned in the text. References accompany most of the articles.

Nemkov, P. P. Increasing the Wear Resistance of Cast-Iron Machine Components by Means of Isothermal Hardening	42
Palatnik, L. S., I. M. Lyubarskiy, and A. F. Krubchenko. Some Problems in the Physics of Metal Wear	46
Pravdin, A. A. Investigation of the Wear Resistance of Steels, Bronze, and Highly Durable Cast Iron	53
Pronikov, A. S. Fundamental Problems in the Calculation and Design of Long-Life Machines	63
Savitskiy, K. V. On the Laws of Plastic Deformation in the Case of Friction of Metals	70
Sukharina, M. M. Investigation of the Magnitude and Sign of Residual Stresses for Various Conditions of Friction	80
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PRONIKOV A S.

25(1)

p. 4

PHASE I BOOK EXPLOITATION

SOV/1813

Akademiya nauk Ukr SSR, Kiyev. Institut stroitel'noy mekhaniki

Issledovaniya v oblasti metallovedeniya i kontaktnoy prochnosti metallov; sbornik dokladov (Investigations in the Field of Physical Metallurgy and Contact Strength of Metals; Collection of Reports) Kiyev, Mashgiz, 1958. 127 p. 4,000 copies printed.

Additional Sponsoring Agency: Nauchno-tekhnicheskoy obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.

Reviewers: V.G. Chudnovskiy, Doctor of Technical Sciences; D.V. Vaynberg, Doctor of Technical Sciences; M. Barabash, D.A. Draygor, I.I. Ishchenko. I.P. Reva, V. Ye. Salion, and V.A. Sheveluk, all Candidates of Technical Sciences; Ed.: B.D. Grozin, Doctor of Technical Sciences, Corresponding Member, USSR Academy of Sciences, Professor; Ed. of Publishing House: M.S. Soroka; Tech. Ed.: Ya. V. Rudenskiy; Chief Ed. (Ukrainian Division, Mashgiz): V.K. Serdyuk, Engineer.

Card 1/5

Investigations in the Field (Cont.)

SOV/1813

PURPOSE: This collection of articles is intended for engineers and technicians in machine plants and in scientific research institutes.

COVERAGE: The book consists of ten papers presented at a seminar held under the auspices of the Academy of Sciences UkrSSR, and the Kiyevskaya oblast' NTO Mashprom (Scientific and Technical Division of the Machine Industry). This seminar examined the results of research in the field of friction and wear of machines and means of increasing the wear resistance of machines, as well as of work done in various scientific establishments, institutes, and plant laboratories. The problem of friction and wear of machines covers a very wide field of scientific investigation including studies of the mechanics of friction and wear, determination of the mechanical and physical properties of surface layers of machine parts, development of testing machines and procedures, and the technology of increasing the wear resistance and service life of machines and mechanisms. In the first article, Grozin and Val'chuk present the results of their experiments dealing with the change of properties of the surface layers of crankshaft journals caused by machining and with the causes of crack formation. The second paper deals with methods of calculation of the permissible wear and service life of machine parts. The third article attempts to demonstrate the

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Investigations in the Field (Cont.)

SOV/1813

effect of friction on metal fatigue, depending on the nature of the friction surfaces. Three papers by M.A. Puzanov discuss the wear resistance of certain steels in relation to the nature of contact, wear of heavy duty components of crane hoists subjected to cyclic loads, and a machine used for testing the wear resistance of cylindrical test samples subjected to sliding friction. Two papers by V.N. Semirog-Orlik deal with the application of the Grozin method of testing steel samples and with the determination of machinability of cast iron according to the factor of octahedral tangential stress. A.I. Kuyun describes the design and the use of a miniaturized thermocouple used to study thermal phenomena in the surface layers of metals. The article by M.L. Gorb deals with the method of processing experimental data and results of studies of test samples subjected to omnidirectional and nonuniform compression. The text contains numerous diagrams, charts, and illustrations.

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PRONIKOV, A.S.

ABRAMOVICH, I.I., prof., ANBINDER, A.G., inzh., ANTOSHIN, Ye.V., inzh.,
 ARKHANGEL'SKIY, L.A., inzh., ASTAF'YEV, S.S., kand. tekhn. nauk,
 AFANAS'YEV, L.A., inzh., BARGSHTYU, I.I., inzh., BORISOV, Yu. S.,
 inzh., red., BYALYY, I.L., inzh., VETVITSKIY, A.M., inzh., GERSHMAN,
 D.Kh., inzh., GINZBURG, Z.M., inzh., GOROSHEIN, A.K., inzh.,
 YEVDOKIMCHIK, Kh.I., inzh., ZHIKH, V.A., kand. tekhn. nauk,
 ZABYVAYEV, Ye. I., kand. tekhn. nauk, [deceased], ZOBIN, V.S., inzh.,
 IVANOV, G.P., kand. tekhn. nauk, KAPRANOV, P.N., inzh., KONDRATOVICH,
 V.M., inzh., KOSTEREV, S.K., inzh., KOVAL'SKIY, N.N., inzh., KRUGLYAK,
 L.A., inzh., LUKYANOV, T.P., inzh., LAPIDUS, A.S., kand. tekhn. nauk,
 LIVSHITS, G.A., kand. tekhn. nauk, LISHANSKIY, I.M., inzh., MIGALINA,
 Ye.Ya., inzh., NOSKIN, R.A., kand. tekhn. nauk; .. PRONIKOV, A.S.,
 doktor tekhn. nauk, REGIER, Z.L., kand. tekhn. nauk, RUDYK, M.A.,
 inzh., SOKOLOVA, N.V., inzh., SAKLINSKIY, V.V., inzh., SAKHAROV, V.P.,
 inzh., TOKAR', M.Kh., inzh., TKACHEVSKIY, G.I., inzh., KHRUNICHEV,
 Yu.A., kand. tekhn. nauk, TSOPIN, K.G., inzh., red.; SHEYNGOL'D, Ye. M.,
 inzh., SOKOLOVA, T.F., tekhn. red.

[Handbook for machinists of machinery plants in two volumes] Spravochnik
 mekhanika mashinostroitel'nogo zavoda v dvukh tomakh. Moskva, Gos.
 nauchno-tekhn. izd-vo mashinostroit. lit-ry. Vol. 2. [The technology
 of repair work] Tekhnologiya remonta. Otv. red. toma IU. S. Borisov,
 1958. 1059 p. (MIRA 11:10)

(Machinery--Maintenance and repair)
 (Machine-shop practice)

25(2)

PHASE I BOOK EXPLOITATION

SOV/2043

Moscow. Vyssheye tekhnicheskoye uchilishche imeni N. Ye. Baumana.
Kafedra "Metallorazhishchye stanki i avtomaty"

Voprosy avtomatostroyeniya [sbornik] (Problems in the Construction
of Automatic Machine Tools [Collection of Articles]) Moscow, Mash-
giz, 1959. 213 p. 3,200 copies printed.

Ed.: G.A. Shaumyan, Doctor of Technical Sciences, Professor; Ed. of
Publishing House: A.F. Balandin; Tech. Ed.: A.F. Uvarova; Manag-
ing Ed. for Literature on Metalworking and Tool Making (Mashgiz):
R.D. Beyzel'man, Engineer.

PURPOSE: This collection of articles is intended for engineers and
technicians in machine-tool manufacturing.

COVERAGE: This collection of articles deals with theoretical and ex-
perimental investigations on the functioning of transmission mech-
anisms of single-spindle bar-stock automatic machine tools, the
kinematic and dynamic design of cam mechanisms, and machining ac-

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Problems in the Construction (Cont.)

SOV/2043

curacy of bar-stock automatic machine tools. Investigation of relieving lathes by means of wire resistance gages, and the construction of instruments for determining the rigidity of automatic machine tools are discussed. No personalities are mentioned. References follow several of the articles.

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Shaumyan, G.A. [Doctor of Technical Sciences, Professor]. Experience of Innovators in Manufacture and the Problems of the Science of Machinery

The author points out innovations in various fields and stresses the necessity of developing the science of machinery in close contact with plant practices. 3

Kamyshnyy, N.I. [Candidate of Technical Sciences, Docent]. G.M. Golovin -- Initiator of Machine Tool Kinematics

The essentials of G.M. Golovin's method of machine tool kinematics, his general formula for designing machine tools, and the dividing head of his design are presented. 13

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Zagorodnikov, A.Ya. [Candidate of Technical Sciences, Docent]. Investigation of Transmission Mechanisms of Single-spindle Automatic Lathes

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Transmission mechanisms (gearing between cam and operating unit) of single-spindle automatic lathes are reviewed. Bellows and ball-type transmission mechanisms are kinematically analyzed. The article describes a unit for testing transmission mechanisms designed by the author, automatic lathes with ball-type control, and GASH-11 and GASH-12 transmission mechanisms designed at MUTU.

Pronikov, A.S. [Doctor of Technical Sciences, Professor]. Methods for the Kinematic and Dynamic Design of Cam Mechanisms for Automatic Machine Tools

71

Types of cam mechanisms are described, basic formulas derived, and nomograms presented for their kinematic design. Methods for determining geometric parameters of typical cam mechanisms and review problems of kinematic analysis are given. The dynamic interpretation of formulas for kinematic analysis and design methods for maximum effectiveness of automatic machine tools are also pre-

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sented.

Filimonov, L.V. [Engineer], (Deceased). Investigation of Machinery Accuracy of Bar-stock Form-cutting and Cut-off Automatic Lathes 123
Factors determining machining accuracy of an automatic machine tool are discussed. The machine, the tool, and the machined part are treated as a whole elastic system, and the effect of errors in this system (especially between chuck and part) on the machining accuracy is analyzed in detail.

Kuznetsov, M.M. [Candidate of Technical Sciences, Docent]. Investigation of Relieving Lathes During Operation by Use of Wire Resistance Gages 183
Forces active during operation, their distribution, and vibrations of the tool, arbor, ways, and frame are discussed. Some special features in construction and operation are analyzed.

Dal'skiy, A.M. [Candidate of Technical Sciences, Docent]. Instruments for Determining Rigidity of Metal-cutting Automatic Machine Tools 207
An instrument for simultaneous loading of elements of conventional machine tools with simulated cutting forces was built

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at Leningradskiy politekhnicheskii institut imeni Kalinina (Leningrad Polytechnical Institute imeni Kalinin) and used successfully to determine the rigidity of conventional lathes. A special dynamometer for the same purpose for use on the model 1112 automatic lathe is also discussed. Application of this dynamometer is shown.

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ANTOSHIN, Ye. V.

807/1961

PLANNING BOOK EXPLOITATION

p. 3

Spravochnik mekhanika mashinostroyitel'skogo zavoda v 4 knizh tomozhi.
T. 2: Tekhnologiya remontov. (Handbook for Mechanics of Machine-Building
Plants in Two Volumes. Vol. 2: Technology of Repair Operations) Moscow,
Mashgiz, 1958. VII, 1059 p. 40,000 copies printed.

Reep. Ed.: Yu. S. Borisov, Engineer; Ed.: E. G. Stepin, Engineer; Tech. Ed.:
S. P. Sobolev; Eds. of Set: Yu. S. Borisov, Engineer; E. G. Stepin, Engineer;
Editor of Technical Sciences, and R. A. Kuznetsov, Candidate of Technical Sciences;
Managing Ed. for Reference Literature (Mashgiz): V. I. Krylov, Engineer.

PURPOSE: This handbook is intended for personnel responsible for repair and main-
tenance operations in a machinery-manufacturing plant.

CONTENTS: The handbook contains information pertinent to the organization of
repair and maintenance operations, design-preparation of maintenance work, and
records of maintenance. Information on scientific research organizations and
plants participating in preparation of this volume is included in the coverage
of Volume 1 (807/1959). There are no references.
Reconditioning and making of parts in maintenance operations; metal-working,
boring, and pipe-fitting; finishing operations; assembly work; maintenance of
checking parts for precision; heat treatment; and assembly work; maintenance of
power equipment; and maintenance of foundations.

Automatic adjustment of metal-cutting machine tools (Pustilov, A. G.,
Doctor of Technical Sciences; and Khramchikov, Yu. A., Candidate of
Technical Sciences)

General data on automatic adjustment
Types of transmissions and their gearing ratio
Mechanisms for adjusting machine tools
Choice of change gear wheels
Adjustment of screw-cutting lathes
Adjustment of dividing heads during milling
Adjustment of gear-cutting machines
Gear chasers
Gear placers for generating straight-tooth bevel gears
Gear-grinding machines

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ANTOSHIN, Ye V

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PHASE I BOOK EXPLANATION

807/1361

Approved for release by the Ministry of Defense of the USSR. This handbook is intended for personnel responsible for repair and maintenance operations in a machinery-manufacturing plant.

CONTENTS: The handbook contains information pertinent to the organization of repair and maintenance operations, design preparation of maintenance and economic of maintenance, introduction of new methods of maintenance and plants participating in preparation of this volume is included in the coverage of Volume I (807/1359). There are no references. Basic topics covered include reconditioning and making of parts in maintenance operations; metal-working, heating, and pipe-fitting; finishing operations involved in maintenance work; checking parts for precision; basic bench and assembly work; maintenance of power equipment; and maintenance of foundations.

PURPOSE: This handbook is intended for personnel responsible for repair and maintenance operations in a machinery-manufacturing plant.

CONTENTS: The handbook contains information pertinent to the organization of repair and maintenance operations, design preparation of maintenance and economic of maintenance, introduction of new methods of maintenance and plants participating in preparation of this volume is included in the coverage of Volume I (807/1359). There are no references. Basic topics covered include reconditioning and making of parts in maintenance operations; metal-working, heating, and pipe-fitting; finishing operations involved in maintenance work; checking parts for precision; basic bench and assembly work; maintenance of power equipment; and maintenance of foundations.

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PRONIKOV, A.S.; KHRUSTALEVA, N.I., red. izd-va; VORONINA, R.K., tekhn. red.

[Increasing the life time of machine tools] Povyshenie dolgovechnosti
stanochnogo parka. Moskva, Gos. izd-vo "Vysshaya shkola," 1961.
154 p. (MIRA 14:7)

(Machine tools—Maintenance and repair)

PRONIKOV, Aleksandr Sergeyevich, doktor tekhn. nauk; DAL'SKIY, Anton
Mikhaylovich, kand. tekhn. nauk; MESHKOVSKAYA, M.M., red.;
KUZNETSOVA, A., tekhn. red.

[Reliability of machine tools] Nadezhnost' metallorezhu-
shchikh ~~stankov~~. Moskva, Mosk. rabochii, 1962. 167 p.
(MIRA 16:3)

(Machine tools)

PRONIKOV, A.S.

Contact problem for conjugated machine-part surfaces. Tren. i in.
mash. no. 15:375-391 1982. (MIRA 15:4)
(Mechanical wear)

PRONIKOV, A.S., doktor tekhn.nauk, prof.

"Wear resistance and durability of mining machinery" by M.M.
Tenenbaum. Reviewed by A.S.Pronikov. Vest.mashinost. 42
no.6:87-88 Ja '62. (MIRA 15:6)
(Mining machinery) (Tenenbaum, M.M.)

PRONIKOV, A.S., doktor tekhn.nauk, prof.

Effect of structural factors on the durability and complexity of
the repair of machine tools. Vest.mashinostr. 42 no.7:17-23
Jl '62. (MIRA 15:8)

(Machine tools--Design)

PRONIKOV, Aleksandr Sergeyevich, prof., doktor tekhn.nauk;
KOPTEVSKIY, D.Ya., red. izd-va; VORONINA, R.K., tekhn. red.

[Design of machine tools] Raschet i konstruirovaniye metallo-
rezhushchikh stankov. Moskva, Vysshaya shkola, 1962. 421 p.
(MIRA 16:4)

(Machine tools--Design and construction)

PRONIKOV, Aleksandr Sergeyevich; GUKOV, S., red.

[Self-regulation in automated machine tools] Samoregulirovanie v stankakh-avtomatakh. Moskva, Mosk. rabochii , 1965. 166 p. (MIRA 18:7)

S/0000/64/000/000/0128/0147

AUTHOR: Pronikov, A.S. (Doctor of technical sciences, Professor)

TITLE: Plastics for slippage controls

SOURCE: Plastmassy* v mashinostroyenii (Plastics in machinery manufacture); sbornik statey. Moscow, Izd-vo Mashinostroyeniye, 1964, 128-147

TOPIC TAGS: slippage control, plastic friction, plastic wear resistance, lubrication, teflon fibercord, viniplast, textolite, capron, teflon

ABSTRACT: The author discusses some of the requirements for materials out of which slippage controls are manufactured, and reviews various techniques for testing these materials. Since, among these requirements, are durability and a low coefficient of friction over long periods of use, he used 3 different setups to study the properties of some suggested plastic materials: an ENIMS apparatus to study the durability of samples, a load-measuring NIDREVMASH apparatus for the measurement of friction and an MVTU apparatus for the measurement of durability.

Card 1/2

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ACCESSION NR: AT4049833

friction, sheet vinyl, textolite metallurgical B, and fibercord 1G showed the least wear. Experiments on the MVTU device showed capron to be suitable at speeds below 15 m/min. and specific pressures below 10 kg/cm²; above these, teflon produces satisfactory results.

orig. att. has 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 28May64

ENCL: 00

SUB CODE: MT, IE

NO REF SOV: 008

OTHER: 000

Card ²⁰ 2/2

YURASOV, V.V., kandidat tekhnicheskikh nauk. ~~PRONNIKOVA, M.I., kandidat~~
tekhnicheskikh nauk; SERGOVANTSEV, V.T., kandidat tekhnicheskikh
nauk; SLEPYAN, Ya.Yu., kandidat tekhnicheskikh nauk, dotsent
(Minsk)

"Outages and protection against them in agricultural power networks."
V.IU. Gessen. Reviewed by V.V. Iurasov and others. Elektriche-
stvo no.10:93-95 0 '56. (MLRA 9:11)
(Electric engineering)
(Gessen, V.IU.)

PRONIN, A.

Book on Soviet plow design ("Share plows and shallow plows." N.V. Shchukin. Reviewed by A. Pronin). Mekh. i elek.sel'khoz. no.4:94-96 Ap '53. (MLBA 6:5)

(Shchukin, N.V.) (Plows)

LETYUK, Yevgeniy Nikolayevich; MARTYNOV, A.; PRONIN, A.

[An appointment with the future; travel notes] Na svidanie s budushchim ;
putevye ocherki. Stalino, Knizhnoe izd-vo, 1960. 112 p. (MIRA 14:11)
(Donets Basin--Description and travel)

MAMAYEV, N.F.; PRONIN, A.A.; CHERMENINOVA, I.V.

Stratigraphy and tectonic characteristics of the formation of
Pre-Cambrian and Lower Paleozoic layers on the eastern slope of
the Ural Mountains. Trudy Inst. geol. UFAN SSSR no. 65:3-17 '63.
(MIRA 17:7)

GABIDULLIN, Vazikh Mukhamedzyanovich; PRONIN, Anatoliy Andreyevich;
ZAVERYAYEVA, L.V., red.; KAMLOVA, L.V., tekhn. red.

[Collective farm incomes and their utilization] Dokhody kol-
khozov i ikh ispol'zovanie. Moskva, Ekonomizdat, 1963. 106 p.
(MIRA 16:12)

(Collective farms—Income distribution)

LEMESHEV, M.Ya.; LAGUTIN, N.S.; GREKULOV, L.F.; KRASNOV, V.D.; PRONIN,
A.A.; YAKOVLEVA, T.V.; ANAN'YEVA, L.F.; KOLOSOVA, Ye.Ya.;
MURASHKO, Yu.V.; CABIDULLIN, V.M.; POPOV, N.I.; POPOV, N.M.;
STUDENKOVA, N.M.; SMYSLOVA, A.S.; PANIN, N.S., red.; PANIN, N.S., red.;
GERASIMOVA, Ye.S., tekhn.red.

[Methods for creating an abundance of agricultural products in
the U.S.S.R.] Puti sozdaniia izobilii sel'sko-khoziaistvennykh
produktov v SSSR. Moskva, Ekonomizdat, 1963. 317 p. (MIRA 16:6)

1. Sektor ekonomicheskikh problem sel'skogo khozyaystva Nauchno-
issledovatel'skogo ekonomicheskogo instituta Gosplana SSSR (for
all except Panin, N.S., Panin, N.S., Gerasimova).
(Farm produce)

PROMIN, A. A.

USSR/Mineral Deposits
Ore Deposits

Sep/Oct 1947

"Growth of the Mineral Resources of the Urals," A. A.
Promin, 3 pp

"Razvedka Nedr" No 5

Historical brief of the development of the Ural area
mineral resources. Compares 1917 and 1943 production
figures. Great emphasis is placed on further develop-
ment of the Ural region resources in keeping with the
national welfare of the USSR.

LC

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35911 fazy tektogeneza V kamennougol'noye vremya na vostochnom
sklone urala. zapiski ural'skogo geol. O-va, vyp. z, 1948,
S. 45-51.- bibliogr:10 nazv.

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

FROMIN, A. A.

Mem., Ural Affil., Acad. Sci., -c1948-.

"Growth of the Mineral Resources of the Urals", Razvedka Nedr, no. 5, 1947;

"Sea Phases in the Tournaisian Deposit on the Eastern Slope of the Urals,"

Dok. AN, 62, No. 3, 1948.

PA 36/49T19

USSR/Geology
Stratification
Fossils

Sep 48

"Maritime Faces of the Turneyev Strata on the
Eastern Slopes of the Urals," A. A. Pronin,
Ural Affiliate, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LXII, No 3

Discusses stratigraphic cross sections of lower
carbonaceous deposits on the eastern slopes of
the Urals. Lists organic remainders found in
limestones near the Rezh River, and near Pokrov-
skiy in Yegorshinskiy Rayon. Submitted by Acad
D. V. Nalivkin, 12 Jul 48.

FEB

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Short Abstract

*Abstract and full text
Properties 8-11/1952*

4220 AGE OF CARBONIFEROUS FORMATION OF ON EASTERN SLOPE OF CRYSTAL
UTER. Pronin, A.A. (Dokl. Akad. Nauk SSSR (Gen. Acad. Sci. U.S.S.R.)),
1 Aug. 1952, vol. 85, (4) 879-881). From consideration of the fauna,
the formation as a whole is ascribed to the Viséan age. Its lower
portion corresponds to part of the carboniferous formation of the
southern wing of the Moscow region basin, its centre to the
carboniferous formation in the Moscow region itself and to the
lower part of the Tula horizon, and its upper portion to the Tula and part
of the Aleksin horizon. (14).

PRONIN, A. A.

Coal - Ural Mountains

Age of the coal-bearing stratum C_1^h on the eastern slope of the Central Urals.
Dokl. AN SSSR, 85, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1953. Unclassified.

PRONIN, A. A.

Geology, Stratigraphic - Ural Mountains

Tournasian stratum on the eastern slope of the Central Urals. Dokl. AN SSSR
85 no. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

PRONIN, A. A.

Ural Mountains - Coal

Age of the coal-bearing stratum Ch on the eastern slope of the Central Urals.
Dokl. AN SSSR 85 no. 6, 1952. 1

9. Monthly List of Russian Accessions, Library of Congress, November 1953, Unclassified.
2

USSR/^{Geology}~~Geophysics~~ - ⁵Ural Deposits,

"Vizeyskiy Stage on the Eastern Slope of the Central Urals," A.A. Pronin,

Mineral-Geological Inst, Ural Affiliate, Acad Sci USSR

^{DAN}
"Dok-Ak-Nauk SSSR", Vol 90, No 3, pp 453-455

States that the Vizeyskiy deposits have a wide distribution and are characterized by their completeness in profiles, and also by their richness and diverse formations of fossil fauna. Presented by Acad D.V. Nalivkin 23 Mar 53.

T49

PRONIN, A.A.; NALIVKIN, D.V., akademik.

Namurian deposits of the western slope of the central Ural Mountains.
(MLRA 6:6)
Dokl. AN SSSR 90 no.6:1123-1125 Je '53.

1. Gorno-geologicheskii institut Ural'skogo filiala Akademii nauk SSSR.
2. Akademiya nauk SSSR (for Nalivkin).
(Ural Mountains--Geology, Stratigraphic)

PRONIN, A. A.

USSR/Geology - Ural Deposits

21 Jun 53

"The Namyur Deposits on the Eastern Slope of the Central Urals," A. A. Pronin, Mining-Geological Inst, Ural Affiliate, Acad Sci USSR

DAN SSSR, Vol 90, No 6, pp 1123-1125

States Namyur formations occur conformably (harmoniously) on the upper Vizeyskiy deposits and are divided into two horizons: 1) lower Namyur C_{11} and 2) upper Namyur C_{12} , which are almost generally separated by a graphically evident gap and are distinguished according to their fauna. Presented by Acad D. V. Nalivkin 14 Apr 53.

269T57

PRONIN, A.A.

"Transactions of the Laboratory of Coal Geology of the Academy of
Sciences of the U.S.S.R." no.1, 1953. Reviewed by A.A.Pronin.
Izv. AN SSSR Ser.geol. 19 no.6:136-138 N-D '54. (MIRA 8:4)
(Ural Mountains—Geology)

USSR/ Geology - Book review

Card 1/1 Pub. 46 - 20/24

Authors : Pronin, A. A.

Title : The book entitled, "The Works of the Coal Geology Laboratory of the Academy of Sciences, USSR"

Periodical : Izv. AN SSSR. Ser. geol. 6, 136-138, Nov-Dec 1954

Abstract : Critical review is presented of the book entitled, "The Works of the Coal Geology Laboratory of the Academy of Sciences USSR", published in 1953. Six USSR references (1937-1953).

Institution :

Submitted : January 26, 1954

FRONIN, A.A.

Upper Paleozoic of the eastern slope of Central Urals. Dokl. AN
SSSR 97 no.5:887-889 Ag '54. (MLRA 7:10)

1. Gorno-geologicheskii institut Ural'skogo filiala Akademii nauk
SSSR. Predstavleno akademikom D.V.Nalivkinym.
(Ural Mountain region--Geology, Stratigraphic) (Geology,
Stratigraphic--Ural Mountain region)

PRONIN, A. A.

USSR/Geology

Card 1/1 : Pub. 22 - 35/44

Authors : Pronin, A. A.

Title : ~~Geological data on the coal bearing properties of upper Namyur deposits on the eastern slope of central Ural~~
About the coal bearing properties of upper Namyur deposits on the eastern slope of central Ural

Periodical : Dok. AN SSSR 98/1, 135-136, Sep 1, 1954

Abstract : Geological data are presented on the coal bearing characteristics of upper Namyur deposits found along the eastern slope of central Ural in the USSR. Two USSR references (1948 and 1953).

Institution : Acad. of Sc. USSR, Ural Branch, Mining-Geological Institute

Presented by : Academician D. V. Nalivkin, May 24, 1954

PRONIN, A.A.

Origin of iron ore deposits of the so-called "Alapayevsk type"
in the Urals. Zap.Vses.min.ob-va 83 no.4:376-382 '54.
(Ural mountains---Iron ores) (MLRA 8:2)

PRONIN, A. A.

USSR/Geology - Paleozoic era

Card 1/1 : Pub. 22 - 34/48

Authors : Promin, A. A.

Title : Upper Paleozoic era of the eastern slope of central Ural

Periodical : Dok. ANSSSR 97/5, 887-889, August 11, 1954

Abstract : Geological data on upper Paleozoic era lithological deposits of the eastern slope of central Ural in the USSR. Three USSR references (1925-1948).

Institution : Acad. of Sc. USSR, Ural Branch, Mining Geological Institute

Presented by : Academician D. V. Nalivkin, May 24, 1954

PRONIN, A. A.

USSR .

✓ 2157. CARBONIFEROUS PROPERTIES OF UPPER MARINIAN DEPOSITS IN EASTERN SLOPE c
Pronin, A.A. (Dokl. Akad. Nauk SSSR (Rep. Acad. Sci. U.S.S.R.)),
in addition to the known Lower Visayan
of Upper Marurian

found, though some were

PRONIN, A.A.

Coal bearing capacity of the Upper Namur deposits of the eastern slopes of the Central Urals. Dokl.AN SSSR 98 no.1:135-136 S '54. (MLRA 7:12)

1. Gorno-geologicheskii institut Ural'skogo filiala Akademii nauk SSSR.
Predstavleno akademikom D.V.Nalivkinym.
(Ural Mountain regions--Coal geology)

Promin, A.A.

DE SILVA, S.F.; SHMELEV, A.B.[translator]; PROMIN, A.A., redaktor; SHCHUKIN, Ye.A., redaktor; SHAPOVALOV, V.I., Tekhnicheskiy redaktor.

[A regional geography of Ceylon. Translated from the English] Geografiia TSeilona. Pereved s angliiskogo A.B. Shmeleva. Red. i predisl. A.A.Promina. Moskva, Izd-vo inostrannoi lit-ry, 1955, 318 p. (Ceylon--Geography) (MLRA 9:5)

15-57-4-5061
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4,
p 142 (USSR)

AUTHOR: Pronin, A. A.

TITLE: Geotectonics in the Formation of Carboniferous Coal-Bearing Series on the Eastern Slope of the Central Urals (Geotektonicheskiye usloviya formirovaniya karbonovykh uglenosnykh tolshch vostochnogo sklona Srednego Urala)

PERIODICAL: Tr. Labor. geol. uglya AN SSSR, 1956, Nr 6, pp 429-434

ABSTRACT: Three coal-bearing series, namely, a lower Tournaisian, Visean, and upper Namurian, are located on the eastern slope of the Central Urals. The Visean coal-bearing deposits are of practical interest; this is especially true of those in the Yegorshino area, where the coal-bearing series lies transgressively. Three coal-

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Geotectonics in the Formation of Carboniferous Coal-Bearing (Cont.) 15-57-4-5061

bearing facies are distinguished in this series, namely, continental lagoonal, coastal marine, and continental. The first two types of facies alternately displace one another both horizontally and in the stratigraphic cross section. The continental facies of the coal-bearing deposits extend along the periphery of the Yegorshino coal-bearing belt. Analysis of the facies distribution and of changes in thickness permits the conclusion that coal was accumulated in the region of tectonic subsidence which extended through all of the eastern slopes of the Urals. This subsidence originated in pre-Devonian time and extended up to the Middle Carboniferous. The upper Namurian series was preserved from erosion in some brachysynclines, but is not present in all of them. It may be assumed that the coal-bearing sediments were accumulated in narrow, shallow local depressions which originated during tectonic movements of the lower Namurian.

Card 2/2

Ye. O. P.

PRONIN, A.A.

Interrelation between the basic tectonic structures of the eastern slope of the Middle and South Urals. Dokl. AN SSSR 110 no.4:642-644 0 '56.

(MLRA 10:1)

1. Ural'skiy filial Akademii nauk SSSR. Predstavleno akademikom D.V. Nalivkinym.

(Ural Mountains--Geology, Structural)

PRONIN, A.A.

Geotectonic formation of Carboniferous coal-bearing strata
in the eastern slope of the Central Urals. Trudy Lab.geol.
ugl. no.6:427-434 '56. (MLRA 10:2)

1. Gornogeologicheskii institut Ural'skogo filiala Akademii
nauk SSSR.

(Ural Mountains--Coal geology)

PRONIN, A.A.

Achievements in the study of the geology and mineral deposits of the Urals during forty years and tasks for the future. Izv. vost. fil. AN SSSR no.10:39-51 '57. (MLBA 10:11)

1. Ural'skiy filial AN SSSR.
(Ural Mountain region--Geology) (Mines and mineral resources)

PRONIN, A.A.; TUZHIKOVA, V.I.

Tectonics of the main coal-bearing zone of the Yegorshino region
in the Urals. Dokl. AN SSSR 112 no.2:315-317 Ja '57. (MLRA 10:4)

1. Gorno-geologicheskii institut Ural'skogo filiala Akademii nauk
SSSR. Predstavleno akademikom D. V. Nalivkinym.
(Artemovskiy, Sverdlovsk Province--Coal geology)

3(5)

SOV/11-59-8-6/17

AUTHOR: Pronin, A.A.

TITLE: The Main Tectonic Structures of the Urals and Their Origin

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya Geologicheskaya, 1959, Nr 8, pp 67 - 76 (USSR)

ABSTRACT: In the light of the latest studies and investigations the author finds that Pre-Cambrian geological processes played the main role in the formation of the Urals. The foundation of the Urals and the general tectonic configuration of the ~~present-day~~ Urals were formed as a result of these processes. Some changes occurred in the Paleozoic era which only slightly modified its configuration. The author divides the whole Ural massif into four main structural levels: Archeian, Proterozoic (Rifeian), Paleozoic and Lower Mesozoic levels. Each level is separated from the other by a series of stratigraphic disturbances and angular unconformities. All four are of almost similar in-

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